Windows to Wildlife

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In This Issue . . .

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U.S. Bureau of Reclamation
Idaho Department of Commerce
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Idaho Department of Fish and Game

Photos above: Pygmy rabbit, photo by Jim Witham

Big Mysteries Surround Idaho's Smallest Rabbit

By Wendy Estes-Zumpf – Ph.D. Student, University of Idaho

The pygmy rabbit (*Brachylagus idahoensis*) is the smallest rabbit in North America and is one of the continent's least understood rabbit species. This diminutive member of the Lagomorph family (which includes rabbits, hares, and pikas) resides in harsh, dry expanses of sagebrush in the Great Basin desert and surrounding intermountain areas of 7 western states, including Idaho. Pygmy rabbits are typically found in dense, mature sagebrush in areas with deep soils that allow them to dig their, often, elaborate burrow systems. Questions regarding this unique and little-known species abound. Are pygmies as prolific as most rabbits? Why do entire populations seemingly disappear and what is the best way to monitor them? How far will such a tiny rabbit travel? Lack of knowledge about critical aspects of the pygmy rabbit's life cycle and our growing knowledge of its role in sagebrush ecosystems has sparked the interest of wildlife researchers throughout the rabbit's range.

Although pygmy rabbits were previously thought to be a species of cottontail, morphological and genetic evidence now supports that they are the only existing species of the unique genus *Brachylagus*. While pygmy rabbits and certain species of cottontails may live in the same environments, several easily observed traits can help wildlife watchers tell the species apart. The most obvious difference between pygmy rabbits and cottontails is that the tail of a pygmy rabbit lacks the white cotton-like tuft on the underside that is characteristic of all cottontail species. Pygmy rabbits have very small tails that match the color of their body. Other clues include the size; pygmy rabbits are 1/2 to 2/3 the weight of locally occurring cottontail species. Pygmy rabbits also have shorter, more rounded ears than cottontails, and have rufous (reddish) coloring on their legs and on the nape of their necks.

Pygmy rabbits are uniquely adapted to their sagebrush habitats, and play an important role in maintaining sagebrush-steppe ecosystems. Pygmy rabbits are one of only a handful of species capable of eating large quantities of sagebrush. Sagebrush contains monoturpenoids, chemicals toxic to most animals if eaten in large amounts. However, the digestive systems of some animals, such as pronghorn and pygmy rabbits, have evolved to cope with the toxins. Burrows constructed by pygmy rabbits provide

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shelter for other small mammals, and a number of raptors, including red-tailed hawks, northern harriers, prairie falcons, and great-horned owls rely on pygmy rabbits as a source of food. Mammalian predators, such as badgers, bobcats, weasels, and coyotes, also prey upon pygmy rabbits.

Unlike many animals living in harsh climates, pygmy rabbits neither hibernate nor estivate (undergo summer dormancy). These rabbits are active all year round and can tolerate a wide range of temperatures and conditions. Pygmy rabbits will dig extensive snow tunnels, allowing them to forage on sagebrush below the snow unseen by most predators. Agile climbers, pygmy rabbits can also be seen browsing on choice tips in the canopy of tall sagebrush during summer months. Although breeding begins in late winter/early spring, little is currently known about reproduction in wild pygmy rabbits. Captive breeding programs at Washington State University and the Oregon Zoo have contributed most of our current knowledge of the reproductive behavior of pygmy rabbits. Average litter size and the number of litters females give birth to each year still remain a mystery in wild populations, but are thought to be lower than most rabbit species. Descriptions of nesting habitat and natal burrows are important to wildlife managers trying to conserve pygmy rabbits, but until recently were unavailable.

A pygmy rabbit has shorter, less pointed ears compared to the mountain cottontail on the right. Photos by Jim Witham & Gary C. Will

Perhaps one of the biggest mysteries surrounding pygmy rabbits is how populations of such a little rabbit with such particular habitat requirements can persist in a vast and fragmented landscape. Populations of pygmy rabbits have been known to disappear rapidly, and with no obvious reason. While wildfires and destruction of sagebrush are known to harm rabbit populations, the nature of these rapid local extinctions may vary. Disease outbreaks, reduction in the quality or quantity of habitat, and seasonal movement or behavior patterns may result in rapid declines or apparent declines in rabbit abundance.

Juvenile pygmy rabbit. Photo by Jim Witham

Inadequate survey techniques also hinder the ability of rabbit researchers to monitor populations. Because rabbits hiding in dense sagebrush are often difficult to see, biologists look for other signs that indicate the presence of pygmy rabbits. Burrow systems and clusters of small rabbit pellets at burrow entrances or tucked under sagebrush may indicate that the elusive rabbit recently lived nearby, but may not reveal whether the burrow system is currently occupied. Researchers are currently trying to find effective ways to survey for pygmy rabbits. Patterns of disappearances also lead to questions about pygmy rabbit movements. How far can pygmy rabbits move to recolonize areas previously occupied by rabbits? What landscape features, both natural and man-made, act as barriers to rabbit movement? Do pygmy rabbits have different summer and winter habitats, and if so, how far do rabbits move between seasonal habitats?

Unraveling the mysteries

As awareness of the need to maintain the integrity of sagebrush ecosystems increases, better information is needed to help conserve pygmy rabbits. Biologists across the western states have begun efforts to unravel some of the mysteries surrounding this little known species. Researchers at the University of Idaho, with support from the Idaho Department of Fish and Game, Montana Department of Fish, Wildlife, and Parks, Bureau of Land Management, and the U. S. Forest Service, have been working diligently to further our understanding of pygmy rabbit ecology and movement capabilities. Much of the work is being conducted in the Lemhi Valley in east-central Idaho.

Work is currently underway to try to find techniques for locating pygmy rabbits. Research on the persistence of burrow systems and rabbit pellets, as well as how pellet color changes over time, will hopefully allow biologists to determine the status of rabbit populations. Within known populations, researchers are attempting to locate active rabbit nests. Although methods to track nursing females have yet to uncover natal burrows containing kits, radio-telemetry and ground searches have located recently occupied natal burrows. Because most vacated nests are not found near any other burrows, evidence suggests that females may dig natal burrows away from their normal activity centers. Radio-telemetry of nursing females remains the most likely technique to locate active rabbit nests. The trick lies in tracking females long enough to catch when the female returns to the nest to nurse her kits, which may occur as little as once every 24 to 36 hours!

Researchers are also using a combination of techniques to determine the area and resources used by pygmy rabbits on a daily basis, how far pygmy rabbits are capable of moving, and which landscape features are barriers to rabbit movement. Radio-telemetry allows researchers to follow the movement of rabbits. One movement of particular interest is juvenile dispersal, when young animals leave their natal areas and travel long distances in search of their own territories and/or mates. Both the frequency and magnitude of these movements determine how much gene

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Sandhill Cranes in Idaho

by Martha Wackenhut, IDFG Nongame Biologist, Southeast Region

The Rocky Mountain population of greater sandhill cranes numbers close to 20,000 birds, with almost half that population gathering (staging) in eastern Idaho before beginning their migration to wintering areas in the southwestern US and Mexico. Grays Lake National Wildlife Refuge and the surrounding valley have one of the largest concentrations of breeding pairs, with about 250 nesting pairs.

The large number of birds concentrating in southeast Idaho has led to concerns about crop damage, mostly to grain fields just before harvest. A hunting season was established in the mid-1990s in an attempt to haze birds to reduce damage to area farmers, as well as, provide limited recreational hunting opportunity. Some area farmers are participating in a lure crop program, which allows payment for grain fields set aside in which cranes can feed. These fields are posted 'no hunting', so they provide a refuge for birds to move to during the hunting season, also reducing crop damage in other fields. This fall there will be 10 properties, totaling several hundred acres, enrolled in this program in the Soda Springs area.

The large concentration of cranes in southeast Idaho offers excellent viewing opportunities. In the spring, cranes begin arriving and forming pairs in April and early May. Viewing is exciting when seeing these magnificent birds do their mating displays and hearing their unique calls. From late August through September, cranes stage in large groups before migrating to their winter homes. At this time of year you can see large numbers of birds foraging in farmlands and adjacent upland areas.

The best places to view sandhill cranes both in spring and fall in southeast Idaho are in the Soda Springs area, particularly in the farmlands and uplands around Blackfoot Reservoir. Grays Lake National Wildlife Refuge (northeast of Soda Springs) and Bear Lake National Wildlife Refuge near Montpelier also offer excellent viewing opportunities. Remember to keep your distance and use binoculars or spotting scopes to view wildlife. Also, staying in your vehicle reduces the chance of disturbing any wildlife, and you will be able to view the natural behaviors of these majestic birds.

Sandhill Cranes in typical nesting habitat, photo by Ken Retallic

31 Year Old Sandhill Crane

by Mike Todd, IDFG Regional Wildlife Habitat Biologist, Magic Valley Region

Sandhill crane, photo by Ken Retallic

We are often asked, "How long does a badger live?" Or, "How old can a gopher snake get?" Those are common questions, but ones that are extremely difficult to answer – unless at some point in time we had our hands on the animal at a known age. Then we could put a permanent mark on it, such as a metal tag or band, with a unique number, so if by some chance someone ever found that banded animal, they might be curious enough to try and find out more about it.

Last September Charles (Eddie) Boss of Hollister was hunting sandhill cranes near Soda Springs with a friend. They each got a bird on that opening morning, but Boss noticed that his bird was different. There was a metal leg band on the bird. He called the U.S. Fish and Wildlife Service (FWS) Bird Banding office in Laurel, MD to report this band number to the people who had banded it in the first place. When Eddie received the information back from FWS, he called me to pry my brain. "Mike, how long can a sandhill crane live?"

I figured they might be a fairly long-lived species for a bird, simply because of their size, and I knew they migrated long distances like their cousins whooping cranes. I had heard of a whooping crane living over 20 years, so that was my best guess. To his delight, Boss told me his bird was 31 years and 2 months old when he took it that morning near Soda Springs! Now this was something I wanted to look into further!

When I was a wildlife student at the University of Idaho in the mid 1970s, I knew a researcher there who was doing extensive field studies on sandhill cranes in Idaho and the west. Dr. Rod Drewien was the man I needed to contact for some more details. I sent off an e-mail with this preliminary information and asked if sandhill crane number 599-05384 meant anything to him.

Dr. Drewien wrote me back with all the detailed information that I needed or could have asked for. He banded this sandhill crane

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flow occurs between populations and whether or not new areas are colonized or previously occupied areas are recolonized. Radio-telemetry of juvenile pygmy rabbits in the Lemhi Valley has recently revealed 1½ month old rabbits traveling almost 12 km (7.5 miles) in just over 2 weeks! A remarkable feat for a young rabbit, still only the size of a softball! Juvenile rabbits have also been found to cross highways, secondary roads, and even small creeks while dispersing.

New genetic tools may also improve our knowledge of how far pygmy rabbits will travel and what obstacles they are willing to cross. Genetic techniques allow researchers to examine gene flow between different populations based on genetic similarities between rabbits from the populations being compared. Traditional techniques for examining connections between populations, such as radio-telemetry and mark-recapture of individual animals, are usually limited to a specific area. Genetic techniques are being developed that will allow researchers to examine connections and patterns of gene flow between many populations of rabbits across plains, valleys, and mountain ranges in portions of Idaho and Montana.

With the help of both traditional and new innovative tools for studying wildlife populations, efforts by researchers throughout the western states may soon shed light on some of the mysteries surrounding the pygmy rabbit. Pygmy rabbits are not only important members of sagebrush ecosystems, but also provide enjoyment for wildlife watchers of all ages. Better knowledge of pygmy rabbits and their needs will improve conservation efforts and will help ensure the continued existence of North America's smallest rabbit.

The pygmy rabbit-an endangered species?

In April 2003, the U.S. Fish and Wildlife Service received a petition to list the pygmy rabbit under the Endangered Species Act. After review of the petition, the federal agency determined the petition did not contain substantial scientific requirements needed to pursue further research for listing as threatened or endangered.

The petition, brought forth by Western Watersheds Project, Biodiversity Conservation Alliance, Center for Native Ecosystems, Committee for the High Desert Association and Mr. Craig Criddle requested further research and protective designation in seven of the eight states that compose the pygmy rabbit's range.

The petition submitted did not include the request for pygmy rabbits to be protected in the State of Washington. In 2003, the Columbia Basin Distinct Population Segment of the pygmy rabbit population was listed as endangered.

The U.S. Fish and Wildlife Service will continue to research pygmy rabbits, but will not dedicate an intense twelve month research initiative required for possible protection under the Endangered Species Act. For additional information regarding the petition review, visit Nevada's Fish and Wildlife office website at http://nevada.fws.gov or contact the office at (775) 861-6300.

Welcome Our New Idaho Watchable Wildlife Coordinator

As we say "farewell and *thank you*" to Aimee Pope, we welcome Sara Focht as the new Watchable Wildlife Program Coordinator. Sara graduated from the University of Idaho with a B.S. in Resource Recreation and Tourism. She started working for the Forest Service as an interpreter at Mount St. Helens National Volcanic Monument in Washington. Her Forest Service work continued at the Sawtooth National Recreation Area for seven years where she was a fire fighter, backcountry ranger and the coordinator of the Wildlands Education Program. Sara spent a year at the Teton Science School's Professional Residency in Environmental Education in Jackson, Wyoming where she began her master's degree in Natural Science and taught field ecology and field research. A note from Sara:

"My binoculars have always sat beside me in my truck as I have driven the highways of Idaho from Moscow to Boise, to Driggs. For the past decade I have traveled around the state, fortunate enough to live and work in beautiful places full of amazing wildlife, a place where binoculars do not sit idle for long. I am so pleased to be able to join the Idaho Department of Fish and Game's Nongame Wildlife team where I can bring together my experiences, skills, and interest in wildlife to connect people to nature around them and preserve Idaho's wildlife resources."

SANDHILLS continued from page 3

as a flightless chick on July 8, 1973 on Slug Creek, a tributary of the Blackfoot River northeast of Soda Springs.

The chick was estimated to be between 40 – 45 days old when it was banded. It was impossible to tell what sex it was, as all chicks look alike. Dr. Drewien told me that the previous sandhill crane longevity record of 29 years and 2 months was also banded by him at Gray's Lake, Bonneville County, in July of 1970. It was shot near Soda Springs in 1999.

This 31 year and 2 month old sandhill crane taken by Mr. Boss is apparently the oldest banded crane reported to the Bird Banding Office of a "dead" sandhill crane. Dr. Drewien did report that there are records of banded sandhill cranes that are over 30 years old and still alive and flying. Currently there is a crane he monitors still migrating back and forth between southern Idaho and New Mexico that is over 35 years old. It was spotted in September of last year at Gray's Lake, 3 miles from its capture site of 35 plus years ago.

THANK YOU

Thank You to All Contributors

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Contact: 208/788-9686, http://imnh.isu.edu.ssi
July 12-13 Birding on the Henry's Fork
July 19-20 Plants and Butterflies
Aug 8-12 Explore Yellowstone

Project Wild Workshops

To register, contact Lori Adams, IDFG, 208/287-2889 or ladams@idfg.idaho.gov

Introductory Workshop
July 27-28, Salmon

Advanced Workshop
July 31-Aug 5—Wild in Yellowstone Ecosystem, Harriman State Park

Audubon Field Trips

Palouse Audubon: http://www.palouseaudubon.org

Mann Lake birding trips
Each Saturday in September
8:30-11:30am

Coeur d'Alene Audubon: http://www.cdaaudubon.org
July 9th-Visit with raptor rehabilitator, Jane Cantwell

MK Nature Center (Boise)

Salmon and Steelhead Days
September 7-9 (open to 5th grade school groups)

Public BBQ-September 8th 5-8 pm
Volunteers needed for all events
For more information, contact Brenda Beckley (208)287-2901

Wildlife Crime Scene Investigation Camp

July 16th 9am-noon
(5th-7th graders)
(208)334-2225

Environmental Resource Center (Ketchum)

http://www.ercsv.org
(208)726-4333
Bird walks every Tuesday evening in July and August
6:30-8pm

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